TWENTY-FIRST

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

URBAN SANITARY AUTHORITY

OF THE

CITY OF WORCESTER.

YEAR 1894.

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The Twenty-first Annual Report of the Medical Officer of Health, being for the year 1894.

TO THE URBAN SANITARY AUTHORITY OF THE CITY OF WORCESTER.

Mr. Mayor and Gentlemen,

I have the honour to lay before you my Report of the health of the City and of its sanitary condition during the year 1894.

This Report is of a most gratifying character in all that concerns the health of the City. The only drawback was the threatening of a serious outbreak of Smallpox, which happily was kept in control, and from which only 2 deaths resulted.

The population of the City at the middle of 1894 is estimated at 43,375. The natural increase of the population, or the excess of births over deaths, during the year was 577.

The Birth-rate was 29·6 per 1000 living, and was ·6 below the mean rate of the preceding 8 years. (Table V.) The Birth-rate for England and Wales for the year was also 29·6.

The Death-rate was 16·4, which is no less than 3·3 lower than the mean rate of the preceding 8 years. (Table V.) The Death-rate for England and Wales was 16·6, the lowest ever recorded, and so much as 1·5 per 1000 below the lowest previous rate, viz., 18·1 in the year 1888.

The Infantile Death-rate was 141·3 per 1000, which was 41 per 1000 below the mean rate of the preceding 8 years. The rate for England and Wales for the year was 137 per 1000.

The Death-rate from the seven principal Zymotic diseases was 1·3, which was ·5 below the mean rate for the preceding 8 years. The rate for England and Wales was 1·76.

Inquests were held by the City Coroner in 61 cases, or 8·4 per cent. of the total deaths registered in the City during the year. Of this number, death was assigned to accidental causes in 18 cases, to natural causes in 24, and to suffocation whilst in bed with parents or others in 5 cases. Inquests were held on 11 infants under one year of age, of whom 6 were illegitimate children.

In estimating the Death-rate, there has been included the deaths of 18 persons inmates of the Asylum at Powick, who went there from the City ; also 1 death from Small-pox, which occurred in the City Isolation Hospital, Tolladine Road. This death was registered in another district, that Hospital being outside the Worcester Registration District. The deaths of persons dying in the General Infirmary who came from outside the City, numbering 29, have been excluded.

It will be noted that the year 1894 was exceptional all over the Kingdom for a very low death-rate. There was a diminution in the number of deaths from nearly all causes. In our City this is most marked in the infantile deaths. Special inquiry has been made this year into the causes of the deaths of infants under one year of age, and next year I propose to report fully on the subject.

The Zymotic Death-rate is low, and of the 57 deaths assigned to these diseases, 30 occurred in infants under one year of age. The details of these deaths are seen in Table VI. The deaths from Measles numbered 27, and gave a death-rate of ·61. The deaths from Diphtheria were again nearly twice the average number of the preceding 8 years, and gave a death-rate of ·16. The deaths from Typhoid Fever were only 3, which is much fewer than the average of the preceding 8 years (Table VI.), and gave a death-rate of ·06. During the year 29 deaths were assigned to Cancer, giving a death-rate of ·66. The deaths from Phthisis numbered 63, giving a death-rate of 1·4. The total deaths from all forms of Tubercle numbered 93, and gave a death-rate of 2·1.

In Table III. will be found birth and death-rates for each parish in the City, and in Table IV. an analysis of the deaths occurring in each parish. The deaths occurring in the Workhouse and Hospitals have been apportioned to the parishes from which the persons came.

THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

During the year 337 cases of infectious disease have been notified. As in former years, the notification of the disease by the householder was a dead letter. The routine work in connection with this Act, which was detailed in my Report for last year, has been continued. It causes a good deal of clerical work, and takes up the time of the Inspector which might be more profitably employed.

No breaches of the Act have been discovered; and I think parents conscientiously observe the rules for isolation as far as the possibilities of their homes allow. I hope that when the new Isolation Hospital is ready a much larger proportion of the patients will consent to removal. In 1894 only 38 per cent. of the Scarlet Fever patients were removed to Hospital; 20 per cent. of the Diphtheria; and 25 per cent. of the Typhoid Fever patients.

It will be seen in Table VI. that with the exception of Diarrhœa the greatest number of deaths from Zymotic diseases in the past 8 years have been due to Measles and Whooping Cough, and yet these two diseases are not included among those which must be notified under the Infectious Disease (Notification) Act. Clause 7 of this Act gives power to a Local Authority to "order that this Act shall apply in their district to any infectious disease other than a disease specifically mentioned in this Act;" and "any such order may be permanent or temporary."

This Clause has been made use of by several Local Authorities throughout the Kingdom, but the Medical Officers of Health of these Authorities are by no means unanimous in their opinions as to the value of notifying Measles and Whooping Cough. Both diseases are peculiar in this respect that they are highly infectious before any diagnosis can be made. Thus in Measles, the catarrhal stage, lasting three full days before the rash appears, is probably the most infectious stage of the disease; and the disease is spread before it is possible to recognise it. Hence, as regards isolation and prevention of infection, notification can be of no value. But it is suggested that fewer deaths would take place, and the patients would be better taken care of, if the disease were notified and printed notices sent the parents giving directions for treatment of the disease. This seems to me to depend entirely on the evidence that can be brought together on the matter. In the City of Edinburgh, Measles has been notified since November, 1879. In the 5 years preceding that date the average death-rate per 1000 from Measles was ·366; in the 5 years following notification the rate was ·431; in the second 5 years, 1889-93, the rate was ·719. In Birkenhead, Measles has been notified since 1881. In the 8 years preceding the average death-rate per 1000 from Measles was ·43; in the 11 years following notification the average rate was ·53. From these two instances no encouragement can be drawn for the opinion that notification of Measles tends to decrease the death-rate from that disease. The expense of including these diseases would, at least, double the amount paid for notification; besides which, when an epidemic of either disease was in progress, visiting the houses would take up an inspector's whole time. For these reasons, and others, I cannot advise any action being taken under this Clause of the Act; but if confronted in future with statistics that demonstrate the saving of life or preserving of health by any means possible to a Sanitary Authority, I shall hasten to recommend them for adoption.

There was not at any time to my knowledge any such amount of infectious disease in the City as to interfere with the work of the Elementary Schools. A request was received on February 6th to grant a certificate for a mixed school at Hallow, where an epidemic of Measles was prevalent. The school attendance was seriously diminished, and the school had been closed by the Manager on February 22nd. The facts were inquired into, and the

Health Committee ordered me to certify for the closing of the school for a month from January 22nd.

The Day School Code (1894) of the Education Department, Article 88, reads thus :—" The managers must at once comply with any notice of the Sanitary Authority of the district in which the school is situated * * * requiring them for a specified time, with a view to preventing the spread of disease, or any danger to health likely to arise from the condition of the school, either to close the school or to exclude any scholars from attendance ; but after complying they may appeal to the Department if they consider the notice to be unreasonable." Also Article 101* says, " Where the Department are satisfied that by reason of a notice of the Sanitary Authority under Article 88, or any provision of an Act of Parliament requiring the exclusion of certain children, the average attendance has been seriously diminished, and that consequently a loss of Annual Grant would, but for this Article, be incurred, the Department have power to make a special grant, not exceeding the amount of such loss in addition to the ordinary grant."

These two Articles protect any school from monetary loss if their average attendance is diminished by reason of the Sanitary Authority ordering the closing of the school, or the exclusion of certain children with a view to the prevention of the spread of disease.

The diseases that are scheduled under this Act have been notified during the year as follows :—

Month.	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Total.
January	8	17	5	13	1	1	7	52
February	...	12	1	5	...	...	6	24
March............	6	13	4	8	...	1	7	39
April	19	2	7	4	...	...	7	39
May	14	9	1	2	1	...	6	33
June	14	15	...	...	...	...	6	35
July..............	1	19	1	5	...	...	2	28
August	1	9	8	6	...	...	4	28
September	...	5	...	1	...	1	3	10
October	...	10	4	1	...	2	5	22
November	...	7	1	1	...	1	2	12
December	...	9	2	...	...	...	4	15
Total for 1894	63	127	34	46	2	6	59	337
„ 1893	13	273	39	65	1	9	94	494
„ 1892	1	236	27	67	1	6	98	436
„ 1891	...	40	10	73	...	6	55	184
„ 1890	...	131	10	77	...	7	79	304

Scarlet Fever.—This disease has been of a mild type during the year, and only 1 death from it has occurred.

Of the 127 cases, 10 occurred among the inmates of the General Infirmary, and these were isolated in the detached building in the grounds of the Infirmary. The remaining 117 cases were distributed in 90 houses. One private school was closed owing to cases among the residents, but there was no need to interfere in any way with the elementary schools of the City.

Diphtheria.—Of this disease 34 cases were notified; these occurred in 29 houses, and 7 deaths took place, of which 4 were of children under 5 years of age. In one house in which the drainage was very defective, five of the inmates were notified as having the disease. The remaining cases were sporadic, and could not be traced to any special sanitary defects in the houses in which they lived.

It is to be hoped that deaths from this disease will in future be much fewer, as scientific research has provided a means of combating the disease, which promises most excellent results. The means for treatment by Diphtheritic Antitoxine has been placed in my hands for use in the Corporation Hospital since the commencement of the year 1895. A store of the Antitoxine is kept in the City at the Shirehall, in charge of the Medical Officer of Health for the County of Worcestershire, and any medical man can obtain an adequate supply there for a small fee.

Typhoid Fever.—It will be seen that the cases of this disease notified have been much fewer than in the preceding four years during which the Act has been in force; and also that three-fourths of the cases occurred in the first five months of the year. Also it is pleasing to record that only 3 deaths took place, which is one-third the number of the average deaths due to this disease during the past eight years (Table VI.) The 45 cases occurred in 42 houses, and 1 in the General Infirmary in a patient who came from a neighbouring district. The sanitation of 6 houses in which the patients lived was bad, and was remedied; in

6 others defects not of a serious character were found. The remaining houses had no obvious defects.

I should be glad to offer a reason for this decided decrease of Typhoid Fever in the City during the last 8 months of the year. It may be suggested that the much better filtration of the City Water is an adequate reason—certainly the two are concomitant events ; but, in face of the remarkable healthiness of the year in all directions, my judgment must be withheld until further experience gives sufficient data for forming an opinion.

Puerperal Fever.—Of the 6 cases of this disease notified, 1 died. All the midwives and nurses concerned were warned of the danger of infecting others ; and one midwife abstained from work for a month on my advice, two cases of the disease having occurred almost simultaneous among her patients.

Erysipelas.—Of this disease 59 cases were notified, 6 of these occurring in the General Infirmary. The notification of this disease leads to no good, so far as I can ascertain. It never spreads to another person in the house. One patient notified informed me that she had had about 20 attacks during the past 10 years.

Smallpox.—During the year there have been two outbreaks of this disease. The first in January consisted of 8 cases. The second began in the last week of March, and the last patient left the Hospital on September 1st, 56 cases having been notified during that time. Every patient but one was removed to Hospital. There were 2 deaths, one of an unvaccinated child, the other of a woman aged 30, who had two small vaccine cicatrices.

Of the 8 cases notified in January, 2 were infected from a canal boat-man who was notified on December 23rd, 1893. Two others in one house were probably infected from the Smallpox Hospital, from which their house was situated about 100 feet in a direct line. Another man was a "sorter" at the Post Office, and the source of this attack could not be traced, unless it was in the course of his employment. The other 3 cases occurred in one house, and originated from an unvaccinated child who came to Worcester on a visit on December 24th, 1893. He was taken ill on January 7th, 1894, and when seen by a medical man was said to have "Chickenpox." He recovered, but on January 23rd the child's uncle and aunt were attacked and found to have Smallpox. Another uncle who had visited the house was attacked with Smallpox in a neighbouring town. This family did laundry work, and a large quantity of soiled linen was found in the house. It was all taken and boiled, and delivered over to the owners in a moist state, with directions to boil it again. No infection spread from this house, which was surprising under the special circumstances.

From January 29th there was no notification of Smallpox until March 24th. On the 26th a second case was notified, and on the 27th two more. These four persons I found worked at the same factory. On making enquiry there I found a girl had been away a good deal nursing her sister, who had "Measles." I visited this house and found that the girl with "Measles" had been ill since March 2nd, and had been seen only once by a medical man (on March 4th), who said she was suffering from Measles. The sister who nursed her went to the factory on March 8th and 9th; after which she remained at home to keep house, but went unrestrictedly about the neighbourhood until my visit on March 27th. From the appearance of the convalescent sister, I had no doubt she had had Small-pox ; and so the family were removed to the Iron Room at Barbourne, and the house thoroughly disinfected and cleansed throughout. The source of the infection in this case I was quite unable to trace. In the outbreak that followed (up to May 2nd, see list following) no less than 21 cases were traced to the infection of the unrecognised disease in this patient. The factory was cleansed and whitewashed throughout, and was constantly visited by myself and the Inspector. The owner of the factory gave me every assistance, and daily informed me if any of his workers were absent, in which case their homes were at once visited.

On May 3rd I had notifications of 3 more cases, and found that two of these patients and a sister of the third worked at the Sheet Shed of the Great Western Railway at Shrub Hill. From enquiry I had reason to believe that there had been a mild unsuspected case in the home of No. 38 (see list following). The family consented to temporary isolation while their house was cleansed and disinfected. Altogether 10 cases were traced to the infection of the Sheet Shed, 4 of them coming from one house.

A group of 5 cases occurred in a Court in High Street, the first of which was a baby, who had been vaccinated in one place only 14 days before the rash appeared. The type of disease was very mild (No. 45). The mother of the baby and three neighbours were attacked, two of whom were unvaccinated. Of the remaining 19 cases, the source of infection could only be traced in one instance. These

19 cases occurred in 17 houses, and the infection never spread from the person first attacked, excepting in two instances in which a second case occurred in the same house.

It will be seen in the list that follows that every patient (except one, No. 14) was removed to Hospital on the day the disease was notified. Every pressure was put on the inmates of a house in which a case occurred to undergo re-vaccination, and the Public Vaccinator and the Vaccination Officer were most diligent in enforcing the laws to the utmost of their power. To the prompt removal and diligent re-vaccination are, doubtless, due the fact that the epidemic was kept within such moderate dimensions.

Reviewing the whole 64 cases, it will be seen that inmates of 48 houses were attacked, and the tramp ward of the Workhouse. Of 28 persons attacked the disease was not known to be given by them to any other person. The following list shows that many parts of the City were invaded, and it seems somewhat surprising that we escaped, on the whole, so easily.

For List of Smallpox cases see following pages.

LIST OF SMALLPOX CASES.

No.	Name.	Sex.	Age.	Address.	Date of Notification	Removed to Hospital.	Discharged from Hospital.	Vaccination Marks.	Type of Disease.	Probable source of Infection.	Remarks.
1	E. M.	F	28	Sandys Road	Jan. 2	Jan. 2	Jan. 20	3 fair	Very mild	...	
2	S. J. H.	F	22	Mill Street	,, 8	,, 8	,, 29	3 fair	Very mild	Canal boat	Infected Dec. 23, revaccinated successfully Dec. 25.
3	J. H. S.	M	26	Lansdowne Rd.	,, 9	,, 9	Feb. 10	2 fair	Confluent	?	Sorter Post Office.
4	J. E. T.	M	43	Severn Side	,, 14	,, 14	,, 10	3 fair	Discrete	Canal boat	
5	M. A. D.	F	60	Sandys Road	,, 17	,, 17	,, 1	Vaccinated in Childhood	Very mild	No. 1	Revaccinated Jan 3
6	S. J.	M	6	Sandys Road	,, 29	,, 29	,, 16	Unvaccinated	Discrete	?	Rash Jan. 7
7	C. J.	M	28	Sandys Road	,, 29	,, 29	,, 23	2 fair	Semi-confluent	No. 6	
8	F. J.	F	17	Sandys Road	,, 29	,, 29	,, 14	4 good	Very mild	No. 6	
9	E. P.	F	16	Severn Street	...	...	...	...	...	?	Rash, March 2
10	A. T.	F	16	Carden Street	Mar 24	Mar 24	Apr. 10	4 fair	Mild	No. 9	
11	B. H.	F	16	Brickfield Road	,, 26	,, 26	May 26	None found	Severe confluent	No. 9	
12	A. M. H.	F	18	S. John's	,, 27	,, 27	Apr. 28	4 small	Discrete	No. 9	

LIST OF SMALLPOX CASES—continued.

No.	Name.	Sex.	Age.	Address.	Date of Notification	Removed to Hospital.	Discharged from Hospital.	Vaccination Marks.	Type of Disease.	Probable source of Infection.	Remarks.
13	H. B.	M	35	Moor Street	Mar 27	Mar 27	Apr. 14	2 small	Discrete	No. 9	
14	E. C.	F	30	Red Hill	,, 29	Nursed	at home	3 moderate	Confluent	?	
15	J. P.	M	21	S. George's Lane	,, 31	,, 31	,, 21	2 moderate	Discrete	No. 9	
16	E. M.	M	25	Portland Street	Apl. 1	Apr. 1	,, 21	3 good	Discrete	No. 9	Delivered coals at house of No. 9
17	D. S.	F	9	Severn Street	,, 2	,, 2	May 27	Unvaccinated	Severe confluent	No. 9	
18	L. H.	F	16	S. John's	,, 9	,, 9	Apr. 17	4 good	Very mild	Sister No 12	
19	T. O.	M	32	Moor Street	,, 9	,, 10	,, 14	3 small	Very mild	No. 13 lodged in his house	Revaccinated March 28
20	W. H. H.	M	21	Merryvale	,, 12	,, 12	,, 27	3 fair	Discrete	No. 9	
21	H. M.	F	26	Portland Street	,, 12	,, 12	,, 29	3 good	Discrete	Wife No. 16	Revaccinated Ap. 2
22	M. P.	F	39	Inglethorpe Sq.	,, 13	,, 13	May 7	2 good	Discrete	No. 9	
23	E. A.	F	69	Bransford Road	,, 14	,, 14	,, 7	1 good	Discrete	No. 12	Vaccinated at age of 17
24	E. H.	F	15	Wellington St.	,, 14	,, 14	June 16	Unvaccinated	Severe confluent	?	

List of Smallpox Cases—continued.

No.	Name.	Sex.	Age.	Address.	Date of Notification	Removed to Hospital.	Discharged from Hospital.	Vaccination Marks.	Type of Disease.	Probable source of Infection.	Remarks.
25	C. T.	F	19	Britannia Road	Apr. 14	Apr. 14	Apr 28	2 fair	Discrete	No. 9	Sister worked at same factory as sister of No. 9
26	J. S.	F	62	Newport Street	,, 16	,, 16	,, 25	4 fair	Discrete	?	Landlady of Inn
27	A. A.	F	30	Lowesmoor	,, 16	,, 16	May 9	3 good	Discrete	?	Landlady of Inn
28	J. G.	M	30	S. George's Walk	,, 17	,, 17	,, 6	3 fair	Discrete	No. 9	
29	D. D.	F	2½	Severn Street	,, 17	,, 17	...	Unvaccinated	Severe confluent	No. 9	Died April 23
30	A. H.	F	16	Fish Street	,, 17	,, 17	Apr. 26	4 good	Very mild	No. 9	
31	T. S.	M	17	Severn Street	,, 20	,, 20	,, 29	3 fair	Very mild	No. 17	Lodged in house with No. 17
32	A. B. B.	M	32	Newport Street	,, 28	,, 28	May 26	2 large	Discrete	? No. 26	
33	G. B.	M	35	Britannia Road	,, 29	,, 29	,, 13	3 fair	Discrete	No. 25	No. 25 lodged in same house
34	E. L.	F	16	Orchard Street	,, 30	,, 30	,, 25	4 good	Very mild	?	
35	E. D.	F	28	College Precincts	May 1	May 1	June 3	2 fair	Discrete	No. 9	Husband worked at same factory as sister of No. 9

LIST OF SMALLPOX CASES—continued.

No.	Name.	Sex.	Age.	Address.	Date of Notification	Removed to Hospital.	Discharged from Hospital.	Vaccination Marks.	Type of Disease.	Probable source of Infection.	Remarks.
36	E. D.	F	1¾	College Precincts	May 2	May 2	June 4	Unvaccinated	Semi-confluent	No. 9	
37	S. C.	F	17	Wellington Sq.	,, 3	,, 3	May 17	4 large	Very mild	...	Worked at Sheet Shed
38	D. D.	F	14	Newport Street	,, 3	,, 3	June 4	2 small	Discrete	?	Sister works at Sheet Shed and has had suspicious illness
39	L. O.	F	20	The Moors	,, 3	,, 3	May 20	3 large	Discrete	...	Worked at Sheet Shed
40	F. A.	M	32	Hylton Road	,, 8	,, 8	June 2	3 good	Discrete	?	Cousin to No. 38
41	L. N.	F	1	Regent Street	,, 15	,, 15	,, 5	1 good	Mild	?	Vaccinated on May 1st
42	B. B.	F	47	Edgar Street	,, 17	,, 17	July 14	1 good	Confluent	?	There was suspicious illness in lodger in house
43	V. C.	F	18	Stanley Road	,, 19	,, 19	June 16	4 large	Discrete	...	Worked at Sheet Shed
44	N. M.	F	19	Tybridge St.	,, 19	,, 19	,, 4	4 large	Mild	...	Worked at Sheet Shed
45	A. E. H.	F	3	High Street	,, 23	,, 23	,, 9	1 large	Very mild	...	Vaccinated 14 days before rash
46	S. P.	F	26	Regent Street	,, 29	,, 29	,, 23	2 large	Discrete	No. 41	
47	E. F.	F	30	Tybridge Street	,, 31	,, 31	...	2 small	Severe confluent	No. 44	Died June 8, lived with No. 44
48	S. A. F.	F	16	Tybridge Street	,, 31	,, 31	June 18	4 large	Mild	No. 44	Lived with No. 44
49	C. B.	F	45	Edgar Street	June 2	June 2	,, 25	2 fair	Discrete	No. 42	Lived in same house as No. 42

LIST OF SMALLPOX CASES—continued.

No.	Name.	Sex.	Age.	Address.	Date of Notification	Removed to Hospital.	Discharged from Hospital.	Vaccination Marks.	Type of Disease.	Probable source of Infection.	Remarks.
50	N. F.	F	21	Tybridge Street	June 3	June 3	July 7	5 good	Mild	No. 44	Lived with No. 44
51	M. J. H.	F	38	High Street	,, 3	,, 3	,, 7	2 fair	Discrete	No. 45	Mother of No. 45
52	M. B.	F	10	Friar Street	,, 5	,, 5	,, 28	Unvaccinated	Confluent	?	
53	S. J.	F	11	Sanders Street	,, 6	,, 6	June 23	Unvaccinated	Confluent	...	Sister works at Sheet Shed
54	S. B.	F	25	Severn Street	,, 7	,, 7	July 14	4 good	Discrete	?	
55	W. J.	M	12	Bull Entry	,, 9	,, 9	,, 28	Unvaccinated	Confluent	No. 45	
56	E. C.	F	17	Lowesmoor	,, 9	,, 9	,, 7	5 good	Discrete	?	
57	L. P.	F	29	Northwick Rd.	,, 8	,, 8	June 23	2 large	Discrete	...	Had visited father's house outside City where there was Smallpox
58	E. T.	M	47	Bull Entry	,, 11	,, 11	July 28	?	Severe confluent	No. 45	
59	M. B.	F	40	High Street	,, 11	,, 11	,, 2	3 fair	Discrete	No. 45	
60	M. D.	F	9	Little Park St.	,, 25	,, 25	Sept. 1	Unvaccinated	Severe confluent	?	
61	H. B.	M	29	James Street	,, 27	,, 27	Aug. 7	4 fair	Discrete	?	
62	W. D.	M	23	Workhouse	,, 29	,, 29	,, 23	?	Severe confluent	?	A tramp
63	W. D.	M	22	Tything	July 7	July 7	,, 7	3 large	Discrete	?	
64	S. O.	M	22	Hylton Road	Aug. 4	Aug. 4	Sept. 1	2 good	Discrete	?	

It would not be well to draw deductions from any statistics that these comparatively few number of cases give. But I offer for your consideration certain data bearing on the question of Smallpox and vaccination.

I am very glad to say that the Guardians of the Worcester Union have enforced the vaccination laws in the area under their care. In the last Report of the Medical Officer of the Local Government Board, the statistics of vaccination of the children whose births were registered in the year 1890 are given, and there I find that for Worcester, under the heading of "Children not finally accounted for (including cases postponed) per cent. of births," the figure given is 13·9 Referring to previous Reports, under the same heading, the average for the 10 years 1883-87 was 5·6, the figure for 1888 was 8·9, and that for 1889 was 10·3. The condition here shown is by no means satisfactory ; the percentage of "children unaccounted for" having more than doubled within the 10 years 1880-90. This has been general throughout the Kingdom, and the Report of the Medical Officer of the Local Government Board above alluded to contains the following paragraph :—

"From the returns made by vaccination officers it appears that of children whose births were registered in England and Wales during the year 1890, there remained 11·3 per cent. not finally accounted for as regards vaccination, the per-centage for the Metropolis being 13·9, and for the provinces 10·9. These figures indicate a larger amount of default in regard of vaccination than any which has been recorded since the passing of the Vaccination Act, 1871. In the Metropolis the per-centage of births unaccounted for has during the 10 years 1881-90 risen almost continuously from 5·7 to 13·9 ; and in the provinces there has, during the same period, been an altogether unbroken rise from 4·3 to 10·9. A marked increase in these rates took place as regards children whose births were registered during the year 1888, and whose vaccination became due, at the latest, during 1889. In the Metropolis the amount of default indicated is now nearly two and a half times as great, and in the provinces it is nearly two and a quarter times as great as it was ten years ago. The figures are very significant, affording as they do an indication of persons who are altogether without protection against smallpox."

From this statement it will be evident that for various reasons, primary vaccination is less efficiently performed throughout the kingdom than was the case 10 years ago, and that Worcester is 3 per cent. worse off as regards this matter than the average of the provinces.

For the general public the vaccination controversy turns on the question of whether or no efficient vaccination is a safeguard against smallpox. By efficient vaccination I mean the standard that has to be obtained by Public Vaccinators, which is that "the total area of vesiculation on the same day in the week following the vaccination should be not less than half a square inch." At the present time the private vaccinator signs a certificate of "successful" vaccination, but this may be anything he pleases, from one small mark upwards. Hence the ignorant will not go to the Public Vaccinator, but prefer to pay a small fee to a practitioner with an elastic conscience, who does his work in conformity with the wishes of the child's parent, disregarding his own knowledge; or, on the other hand, partially deceiving the parent by putting one mark, but that an abnormally large one. This weak-kneed position of some medical practitioners has much to answer for in the comparative neglect of vaccination, and in the greater neglect of "efficient" vaccination.

In his evidence before the Royal Commission, Dr. Thorne Thorne, the Medical Officer of the Local Government Board, handed in the following table founded on observations made by Mr. Marson on 3,094 cases of Smallpox during 1836-51, and 10,661 further cases during the years 1852-1867.

Cases of Smallpox classified according to the vaccination marks borne by each patient respectively.	Percentage of deaths in each class respectively *uncorrected.		Percentage of deaths in each class respectively *corrected.	
	1836-51	1852-67	1836-51	1852-67
1 Stated to have been vaccinated, but having no cicatrix....................	25·5	40·3	21·7	39·4
2 Having one vaccine cicatrix	9·2	14·8	7·6	13·8
3 Having two vaccine cicatrices	6·3	8·7	4·1	7·7
4 Having three vaccine cicatrices	3·6	3·7	1·8	3·0
5 Having four or more vaccine cicatrices	1·1	1·9	0·7	0·9
Unvaccinated..........................	37·5	35·7	35·5	34·9

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* The terms "corrected" and "uncorrected" are used to signify the inclusion or exclusion of those fatal cases of Smallpox in which the patient suffered some other disease disease superadded to the Smallpox.

Another table bearing on the same point is to be found in the 2nd Report of the Royal Commission, and is the result of the experience of 10,403 cases treated at the hospitals of the Metropolitan Asylums Board by Dr. William Gayton. I give here only a summary of the table.

	Cases.	Deaths.	Per cent.
Vaccinated with good marks...	2085	62	3
Vaccinated with imperfect marks........................	4854	455	9
Vaccinated, but no marks visible	1295	352	27
Unvaccinated	2169	938	43

The 53 patients who came under my care are classified in the following table, according to the number of vaccination marks they had and also according to the type of the disease from which they suffered :—

Age of Patient.	Number of vaccination marks.	Type of Disease.				Total.
		Confluent.	Severe Discrete.	Mild Discrete.	Very mild.	
Under 10	1	...	...	...	2*	2
Over 10		2	1	1	...	4
Under 10	2	...	...	...	...	...
Over 10		3	2	10	...	15
Under 10	3	...	...	...	...	...
Over 10		1	...	11	5	17
Under 10	4 or more	...	...	...	...	...
Over 10		...	...	7	8	15
		6	3	29	15	53

*These patients had been vaccinated within 14 days of the appearance of the rash.

Another way in which the severity of the disease in relation to vaccination can be shewn, is by finding the average length of stay in hospital of those attacked.

Excluding the two cases that died, the vaccinated patients averaged 20 days in hospital, the unvaccinated averaged 44 days, and the three patients who said that they had been vaccinated, but on whose arms no marks could be found, averaged 54 days.

All these observations point the same way, that vaccination is protective against Smallpox in a severe form in proportion to the efficacy of its performance. A person who has only one vaccine mark is ten times more likely to die of Smallpox if attacked than a person who has four marks. This fact, if prominently brought forward, ought to put an end to the demand for "one mark," especially as the temporary effect on the child is much the same if one mark or four are put.

But those who oppose vaccination deny that its practice protects the individual from an attack of Smallpox. No one now contends that vaccination in infancy protects the individual through life; but it is necessary to undergo successful re-vaccination about the age of 12 to 15, and this, for persons not unduly exposed to contagion (*i.e.*, doctors or nurses) affords almost absolute protection against the disease throughout life.

Let me first bring to your notice the statistics of deaths from Smallpox during most of the last 300 years.

Years.	Average annual deaths per million from all causes.	Average annual deaths per million from Smallpox.
1660-79	80,000	4,170
1728-57	52,000	4,260
1771-80	50,000	5,020
1801-10	29,200	2,040
1831-35	32,000	830
1838-53	24,900	513
1854-71	24,200	388
1872-90	21,400	178

In this table the periods up to 1835 are estimates made by Dr. Farr on the best available statistics, and are necessarily more or less inaccurate. It will be noted that the average annual deaths have decreased greatly, but in the successive periods *since vaccination* was introduced (beginning 1801-10) the fraction contributed by Smallpox to the total mortality has been reduced nearly as follows :—

1-15th, 1-40th, 1-50th, 1-60th, and 1-120th

But far more striking is the present age incidence of Smallpox as compared with pre-vaccination times. The Registrar-General gives the following figures published in the 1st Report of the Vaccination Commission :—

Mean Annual Deaths from Smallpox, at successive Age-periods, per million living at each such Life-period, 1847-53, 1854-71, and 1872-87.

Period.	All ages.	0-5	5-10	10-15	15-25	25-45	45 and upwards.
1. Vaccination optional (1847-53.)	305	1,617	337	94	109	66	22
2. Vaccination obligatory, but not efficiently enforced. (1854-71.)	223	817	243	88	163	131	52
3. Vaccination obligatory, but more efficiently enforced by Vaccination Officers. (1872-87.)	114	242	120	69	122	107	47

It will be here seen that under 5 years of age, when the protection of primary vaccination is greatest, the decrease in Smallpox is also greatest ; it is in the proportion of 100 in the first period to 15 in the third. In the second five years of life the decrease is from 100 to 36. In the third five years the decrease is from 100 to only 73, while in the period 15 to 25 and upwards there is an increase in the mortality. What possible explanation of these facts is there, except that infant vaccination protects against Smallpox ; for the despair of sanitarians in the cities is the high infantile Death-rate, which remains high in spite of the lowering of the general Death-rate, and in spite of improved sanitation. So that this marked fall in the deaths from

Smallpox of children under 5 years of age is in striking contrast to their deaths from most other causes.

But this Table shews more, that the Smallpox mortality during the life periods 15-25, and 25-45 has really increased The reason is this, that in pre-vaccination days almost everybody took Smallpox, and most of them during the first 15 years of life, so that the survivors at later periods of life were protected by having had an attack of Smallpox, and the mortality after the age of 15 was low.

There are some more recent statistics of the Smallpox epidemics from 1887 to 1894 inclusive, published in the "British Medical Journal" of March 2, 1895, of which I can only give the summary.

Total number of Smallpox cases ...	11,064
" " deaths .	1,026
Mortality per cent. of cases	9·2

	Vaccinated.		Unvaccinated.		Doubtful.
Under 10 years of age.					
Cases..................	780	......	927	......	14
Deaths	10	......	301	......	6
Mortality per cent.	1·2	......	32·4	......	42·8
Over 10 years of age.					
Cases..................	8,466	......	774	......	103
Deaths	381	......	313	......	15
Mortality per cent.	4·5	......	40·6	......	14·5

What can be more clear than the deduction from these figures. Under 10 years of age Smallpox is 30 times more fatal to the unvaccinated than to the vaccinated, and over 10 years of age 10 times more fatal.

During the epidemic in Sheffield in 1887-88 an exhaustive investigation was made by Dr. Barry on behalf of the Local Government Board. A census of the infected divisions of the City was made as regards their vaccination, and the following was found :—

Per 1,000 of the number of children under 10 in each class :—

The Attack-rate of the vaccinated was......	5·0
The Attack-rate of the unvaccinated was......	101·0
The Death-rate of the vaccinated was	·09
The Death-rate of the unvaccinated was	44·0

Thus among the children in Sheffield under 10 years of age the vaccinated had, as compared with the unvaccinated, a 20-fold immunity from attack by Smallpox, and a 480-fold security against death by Smallpox.

The only statistics I will put before you regarding the efficacy of successful re-vaccination will be of nurses at the Metropolitan Smallpox Hospitals. Of 734 nurses and attendants 79 had had Smallpox, and none of these took it again ; 645 were re-vaccinated before entering on their duties, and all escaped the disease ; the remaining 10 were not re-vaccinated, and all of them took Smallpox.

I have thus fully entered into this question, because the present generation of citizens has had no experience of Smallpox epidemics, and is inclined to treat lightly the increasing tendency to neglect efficient vaccination, which has been shewn to be a great safeguard against Smallpox. The medical profession, who are practically unanimous in this belief, are, as a rule, not sufficiently assertive in their opinion, and take little or no trouble to influence their fellow-citizens, but with the latter in the ballot-box will rest, perhaps before long, the readjustment of the vaccination laws.

There is one question that most certainly will influence the citizen if Smallpox became common, and that is the cost of isolating, nursing, and maintaining those persons attacked by the disease.

The Finance Clerk has kindly given me the following figures of the cost of the epidemic from March 24 to September 1, 1894:—

1. Nursing, feeding patients, wages, and ambulance expenses, £289 11s. 6d.
2. Compensation for bedding and clothing destroyed, £4 19s. 9d.
3. New clothing for patients (their own having been burnt), £70 12s. 6d.

Besides those sums which amount to a total of £365 3s. 9d.; the cost of the hospital buildings, the furnishing and rent of site amounted to £989 19s. 3d. These are no inconsiderable sums to be expended on an epidemic of 56 cases, which lasted practically only four months.

THE ISOLATION (BARBOURNE) HOSPITAL.

During the year 72 cases have been admitted into the Hospital. Besides these, four cases of Smallpox were nursed in the Iron Room for a short time, from April 14th to 28th, because of insufficient room at the Smallpox Hospital before the tent was erected.

The following Table shews the admissions during 1894, and for the ten years preceding :—

Year.	Smallpox.	Diphtheria.	Typhoid Fever.	Scarlet Fever.	Measles.	Total.
1884	2	...	22	8	...	32
1885	...	...	5	43	...	48
1886	1	1	17	24	...	43
1887	...	...	8	41	...	49
1888	...	1	10	41	...	52
1889	...	2	17	16	...	35
1890	...	...	22	97	...	119
1891	...	...	20	24	1	45
1892	1	4	9	107	1	122
1893	12	...	8	143	1	164
Average for 10 years ...	1·6	·8	13·8	54·4	·3	70·9
1894.........	**8**	**7**	**11**	**45**	**1**	**72**

Of the 72 patients, three remained under the care of their own medical man.

There were two deaths during the year, one of a child from the sequelæ of Scarlet Fever, and the other a boy with Diphtheria, who was tracheotomised, but who survived only 36 hours.

The ages of the patients admitted were as follows :—

	1 to 5 years.	5 to 10 years.	10 to 20 years.	20 to 60 years.
Scarlet Fever	8	23	11	3
Diphtheria	3	1	2	1
Typhoid Fever	...	1	7	3
Smallpox	...	1	1	6

The subject of the provision of an adequate Isolation Hospital has advanced during the year, and a field most excellently situated, 1½ miles from the centre of the City, has been acquired as a site for a new Hospital. It is to be hoped that nothing will interfere with the speedy erection of the Hospital when the land comes into possession of the Corporation, which will not be until Michaelmas, 1895.

THE SMALLPOX HOSPITAL.

This was ready for occupation in the first week in March, and on the 24th of that month the first patient was admitted. The last patient was discharged on September 1st. Altogether 52 patients were treated there during that period ; and there was one death.

The Hospital is a wood and iron structure, with two wards, each containing six beds, with nurses' room and kitchen between the wards. In the third week in April a tent had to be erected, as these wards would not accommodate all the patients. This tent had double canvas, a wooden floor, hot-water pipes for heating ; it was comfortable in all ways, and the patients treated in it did very well, better, I am inclined to think, than those in the wooden building.

It will be a matter for consideration whether this temporary structure shall remain in its present position, which is not in all respects desirable ; and the rent for the site is fixed solely by the law of supply and demand.

An agreement was made on June 28th, between the Corporation of the City and the Guardians of the Worcester Union, by which the Corporation undertook to provide accommodation and nursing, &c., in their Isolation Hospitals for such patients suffering from certain specified infectious diseases, as would in stated circumstances come under the care of the Guardians. This agreement makes a more commodious Hospital all the more necessary.

During the year a new Ambulance was bought, the old one being used solely for Smallpox patients. It is so built that patients can be removed in a recumbent position. The lack of this provision previously had on some occasions made me decline to remove patients suffering from Typhoid Fever, least hurt should come to them during the removal.

The urgent need of a steam disinfecting apparatus has never been more evident than during the Smallpox epidemic. There was the greatest possible care taken by your Inspectors who personally undertook the disinfection of the rooms, but the burning of sulphur, the sole means at our disposal, is, at best, but an uncertain means of dealing with such a degree of infection as Smallpox affords.

The checking the epidemic was chiefly due to the prompt notification by the medical men of the City and to the *immediate* removal of the sick person. I shall hope that an adequate disinfecting apparatus will form part of the adjuncts of the new Isolation Hospital.

In relation to this matter I may point out that more than £75 was spent in providing new clothing, &c., for the Smallpox patients, the most of which could have been saved had we been in possession of a steam disinfector.

The refuse of the City is still cast about in heaps and in holes, to the certain pollution of the air and soil. Complaints have reached me several times of the malodours arising from these refuse heaps. In one instance the complaint was too well founded, for the moist rotting contents of ash pits were exhaling odours most sickening. This nuisance was abated at once, the heap being covered by earth and deodorising materials. The provision of a Refuse Destructor would do away with this source of annoyance and danger to health.

BAKEHOUSES.

There are 79 bakehouses in use in the City; 7 are not used; one has been pulled down during the year in the Charles Street improvement. In one bakehouse, a new steam oven has been erected.

I made 233 day visits, and one night visit to the only bakehouse where night work is the rule. I found the law fairly well kept and had to serve only four notices. In cases where "young persons" were employed I acquainted H.M. Inspector of the fact as the law directs.

The faults in the bakehouses in Worcester are due in nearly all cases to the antiquity of the buildings in which the work is carried on. In many cases means of ventilation are provided, but the workers persistently neglect to make use of them.

The Water Supply.—During the year the new Filter-beds have been completed and consequently a much better filtered water has been supplied. The Public Analyst has reported favourably on the Tap water in his Quarterly Reports, excepting in that for the 2nd Quarter, and there he remarks that the probable source of pollution is the old pebbles at the bottom of the old filter beds. I would suggest that the old beds be dealt with in the same manner as filter-bed No. 1 was in 1893. This is most desirable, and the point of expense ought not to stand in the way of rendering our water supply the best possible.

The yearly Report of the Sanitary Inspector follows the Tables of Statistics. The common run of nuisances is much the same year by year, and the old parts of the City, inhabited mostly by the class of tenants whose habits tend towards disintegration, are in need of constant supervision and repair. Will the citizens ever be prepared to spend money on an improvement schemes for clearing away these old areas, or must we wait for a local "Peabody" whose money will be bestowed in letting air and sunshine into regions which now know little of either?

Dr. Swete, to whom I tender my best thanks, has kindly sent me monthly returns of Meteorological observations taken at Fort Royal, and also a summary for the year which will be found appended.

I remain
Mr. Mayor and Gentlemen,
Your obedient Servant,
MABYN READ, M.D., D.P.H.
Medical Officer of Health.

March 20th, 1895.

Table 1.—*DEATHS REGISTERED FROM ALL CAUSES during the year 1894.*

NOTE.—The Deaths of Non-Residents occurring in Public Institutions situated in the District are excluded, and the Deaths of Residents occurring in Public Institutions situated beyond the limits of the District are included.

	AGES.											Totals.
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.	
I. Specific Febrile, or Zymotic Diseases	37	21	2	2	2	1	1	2	...	...	...	68
II. Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...
III. Dietic Diseases	1	...	...	...	1	...	3	...	...	...	...	5
IV. Constitutional Diseases	13	16	5	18	14	20	25	11	10	3	...	135
V. Developmental Diseases	33	...	...	...	...	...	...	...	19	41	8	101
VI. Local Diseases	46	39	7	9	20	34	46	57	47	25	1	331
VII. Deaths from Violence	7	2	2	2	1	3	...	5	1	2	...	25
VIII. Deaths from Ill-Defined and Not Specified Causes	46	5	...	...	...	...	...	2	...	...	...	53
Totals	183	83	16	31	38	58	75	77	77	71	9	718
I.—Specific Febrile, or Zymotic Diseases.												
1.—Miasmatic Diseases.												
Smallpox... Vaccinated	...	...	...	...	1	...	...	...	...	...	...	1
Smallpox... Unvaccinated	...	1	...	...	...	...	...	...	...	...	...	1
Smallpox... No Statement	...	...	...	...	...	...	...	...	...	...	...	...
Measles	12	15	...	...	...	...	...	...	...	...	...	27
Scarlet Fever	...	1	...	...	...	...	...	...	...	...	...	1
Typhus	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	1	3	2	...	...	...	1	...	...	...	...	7
Simple Continued and Ill-defined Fever	...	...	...	...	...	...	...	...	...	...	...	...
Enteric or Typhoid Fever	...	1	...	2	...	...	...	...	...	...	...	3
Other Miasmatic Diseases	...	...	...	...	...	...	...	...	...	...	...	...
Influenza	...	...	...	...	...	1	...	1	...	...	...	2
2.—Diarrhœal Diseases.												
Simple Cholera	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa, Dysentery	17	...	...	...	...	...	...	...	...	...	...	17
3.—Malarial Diseases.												
Remittent Fever	...	...	...	...	...	...	...	...	...	...	...	...
Ague	...	...	...	...	...	...	...	...	...	...	...	...
4.—Zoogenous Diseases.												
Cowpox and effects of Vaccination	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases (*e.g.*, Hydrophobia, Glanders, Splenic Fever)	...	...	...	...	...	...	...	...	...	...	...	...
5.—Venereal Diseases.												
Syphilis	6	...	...	...	...	...	...	1	...	...	...	7
Gonorrhœa, Stricture of Urethra	...	...	...	...	...	...	...	...	...	...	...	...
6.—Septic Diseases.												
Erysipelas	1	...	...	...	...	...	...	...	...	...	...	1
Pyæmia, Septicæmia	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	...	...	...	1	...	...	...	...	...	...	1
II.—Parasitic Diseases.												
Thrush, and other Vegetable Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...
Worms, Hydatids, and other Animal Parasitic Diseases	...	...	...	...	...	...	...	...	...	...	...	...
III.—Dietic Diseases.												
Want of Breast Milk, Starvation	1	...	...	...	...	...	...	...	...	...	...	1
Scurvy	...	...	...	...	...	...	...	...	...	...	...	...
Chronic Alcoholism	...	...	...	...	1	...	2	...	...	...	...	3
Delirium Tremens	...	...	...	...	...	...	1	...	...	...	...	1
IV.—Constitutional Diseases.												
Rheumatic Fever, Rheumatism of the Heart	...	...	1	1	...	...	...	...	...	...	...	2
Rheumatism	...	...	...	1	...	...	...	...	...	...	...	1
Gout	...	...	...	...	...	...	1	...	...	1	...	2
Rickets	...	...	...	...	...	...	...	...	...	...	...	...
Cancer, Malignant Disease	...	...	...	1	...	2	11	6	8	1	...	29
Tabes Mesenterica	7	5	1	...	...	...	...	...	...	...	...	13
Tubercular Meningitis, Hydrocephalus	1	4	...	...	1	...	...	...	...	...	...	6
Phthisis	...	2	1	15	11	16	12	3	2	1	...	63
Other forms of Tuberculosis, Scrofula...	4	4	1	...	1	1	...	...	...	...	...	11
Purpura, Hæmorrhagic Diathesis	1	...	...	...	...	1	...	...	...	...	...	2
Anæmia, Chlorosis, Leucocythæmia	...	...	1	...	...	...	1	1	...	...	...	3
Glycosuria, Diabetes Mellitus	...	...	...	...	1	...	...	1	...	...	...	2
Other Constitutional Diseases	...	1	...	...	...	...	...	...	...	...	...	1
V.—Developmental Diseases.												
Premature Birth	27	...	...	...	...	...	...	...	...	...	...	27
Atelectasis	2	...	...	...	...	...	...	...	...	...	..	2
Congenital Malformations	4	...	...	...	...	...	...	...	...	...	...	4
Old Age	...	...	...	...	...	...	...	...	19	41	8	68
VI.—Local Diseases.												
1.—Diseases of Nervous System.												
Inflammation of Brain or Membranes	2	3	...	...	2	1	...	...	...	...	...	8
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	...	...	1	1	...	4	10	11	14	5	1	47
Insanity, General Paralysis of the Insane	...	..	...	...	1	...	2	...	...	...	...	3
Epilepsy	...	...	...	1	2	4	...	...	...	...	...	7
Convulsions	10	2	...	...	...	...	...	...	...	...	...	12
Laryngismus Stridulus (Spasm of Glottis)	...	...	...	...	...	...	...	...	...	...	...	...
Disease of Spinal Cord, Paraplegia, Paralysis Agitans	...	...	...	...	...	...	...	1	...	...	...	1
Other Diseases of Nervous System	...	...	...	...	2	...	...	...	...	...	...	2
2.—Diseases of Organs of Special Sense (*e.g.*, of Ear, Eye, Nose)	...	...	...	...	...	...	...	...	...	...	...	...
3.—Diseases of Circulatory System.												
Pericarditis	...	...	...	...	...	...	...	...	...	...	...	...
Acute Endocarditis	...	...	...	...	...	...	...	...	...	...	...	...
Valvular Diseases of Heart	...	...	1	...	...	...	1	5	...	1	...	8
Other Diseases of Heart	...	1	2	...	5	5	9	18	14	5	...	59
Aneurism	...	...	...	...	...	1	...	...	...	...	...	1
Embolism, Thrombosis	...	...	...	...	...	1	...	...	...	...	...	1
Other Diseases of Blood Vessels	...	...	...	...	...	...	...	...	...	...	...	...
4.—Diseases of Respiratory System.												
Laryngitis	1	2	...	...	...	..	...	...	...	1	...	4
Croup	...	...	...	...	...	...	...	...	..	...	...	...
Emphysema, Asthma	...	...	...	...	...	...	...	...	...	...	...	...
Bronchitis	15	10	..	2	...	1	5	5	7	6	...	51
Pneumonia	10	16	...	1	1	7	6	1	5	2	...	49
Pleurisy	...	...	...	...	1	1	...	...	...	...	...	2
Other Diseases of Respiratory System	...	...	1	...	...	...	1	...	...	...	...	2
5.—Diseases of Digestive System.												
Dentition	...	1	...	...	...	...	...	...	...	...	...	1
Sore Throat, Quinsy	...	1	...	...	...	...	...	...	...	...	...	1
Diseases of Stomach	...	1	...	...	...	1	2	2	...	1	...	7
Enteritis	7	...	...	...	1	...	...	1	...	...	...	9
Obstructive Diseases of Intestine	1	...	1	...	...	...	...	2	1	1	...	6
Peritonitis	...	...	...	1	...	1	...	...	1	...	...	3
Ascites	...	...	...	...	...	...	...	...	...	...	...	...
Cirrhosis of Liver	...	...	...	...	...	...	3	2	1	...	...	6
Jaundice and other Diseases of Liver	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Digestive System	...	...	...	...	...	...	...	1	...	...	...	1
6.—Diseases of Lymphatic System (*e.g.*, of Lymphatics and of Spleen)	...	...	...	...	...	...	...	...	...	...	...	...
7.—Diseases of Gland-like Organs of Uncertain Use (*e.g.*, Bronchocele, Addison's Disease)	...	...	...	...	...	...	..	...	...	...	...	...
8.—Diseases of Urinary System.												
Nephritis	...	...	1	1	...	2	...	2	...	...	...	6
Bright's Disease, Albuminuria	...	...	...	1	2	3	7	3	2	...	...	18
Disease of Bladder or of Prostate	...	2	...	...	...	...	...	2	1	2	...	7
Other Diseases of the Urinary System	...	...	...	...	...	...	...	1	1	...	...	2
9.—Diseases of Reproductive System.												
A. *Of Organs of Generation.*												
Male Organs	...	...	...	...	...	...	...	...	...	...	...	...
Female Organs	...	...	...	...	1	...	...	...	...	1	...	2
B. *Of Parturition.*												
Abortion, Miscarriage	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Convulsions	...	...	...	...	...	1	...	...	...	...	...	1
Placenta prævia, Flooding	...	...	...	...	...	...	...	...	...	...	...	...
Other Accidents of Child Birth	...	...	...	...	1	1	...	...	...	...	...	2
10.—Diseases of Bones and Joints.												
Caries, Necrosis	...	...	...	1	1	...	...	...	...	...	...	2
Arthritis, Ostitis, Periostitis	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Bones and Joints	...	...	...	...	...	...	...	...	...	...	...	...
11.—Diseases of Integumentary System.												
Carbuncle, Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of Integumentary System	...	...	...	...	...	...	...	...	...	...	...	...
VII.—Deaths from Violence.												
1.—Accident or Negligence.												
Fractures and Contusions	...	...	...	1	...	2	...	4	...	2	...	9
Gunshot Wounds	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab	...	...	...	...	...	...	...	...	...	...	...	...
Burn, Scald	...	2	1	...	...	...	...	...	...	...	...	3
Poison	...	...	...	...	...	...	...	...	...	...	...	...
Drowning	...	...	1	...	1	...	...	...	1	...	...	3
Suffocation	6	...	...	...	...	...	...	...	...	...	...	6
Otherwise	...	...	...	...	...	...	...	...	...	...	...	...
2.—Homicide.												
Manslaughter	...	...	...	...	...	1	...	...	...	...	...	1
Murder	1	...	...	...	...	...	...	...	...	...	...	1
3.—Suicide.												
Gunshot Wounds	...	...	...	...	...	...	...	1	...	...	...	1
Cut, Stab	...	...	...	...	...	...	...	...	...	...	...	...
Poison	...	...	...	...	...	...	...	...	...	...	...	...
Drowning	...	...	...	1	...	...	...	...	...	...	...	1
Hanging	...	...	...	...	...	...	...	...	...	...	...	...
Otherwise	...	...	...	...	...	...	...	...	...	...	...	...
4.—Execution.												
Hanging	...	...	...	...	...	...	...	...	...	...	...	...
VIII.—Deaths from Ill-defined and not Specified Causes.												
Dropsy	...	...	...	...	...	...	...	...	...	...	...	...
Debility, Atrophy, Inanition	42	5	...	...	...	...	...	...	...	...	...	47
Mortification	...	...	...	...	...	...	...	1	...	...	...	1
Tumour	...	...	...	...	...	...	...	...	...	...	...	...
Abscess	2	...	...	...	...	...	...	...	...	...	...	2
Hæmorrhage	...	...	...	...	...	...	...	...	...	...	...	...
Sudden Death (cause not ascertained)	...	...	...	...	...	...	...	1	...	...	...	1
Causes not Specified or Ill-defined	2	...	...	...	...	...	...	...	...	...	...	2

SUMMARY OF TABLE III.

	No. of Deaths
I.—Specific Febrile, or Zymotic Diseases.	
1. Miasmatic Diseases	42
2. Diarrhœal ,,	17
3. Malarial ,,	...
4. Zoogenous ,,	...
5. Venereal ,,	7
6. Septic ,,	2
II.—Parasitic Diseases	...
III.—Dietic Diseases	5
IV.—Constitutional Diseases	135
V.—Developmental Diseases	101
VI.—Local Diseases.	
1. Diseases of Nervous System	80
2. Diseases of Organs of Special Sense	...
3. Diseases of Circulatory System	69
4. Diseases of Respiratory System	108
5. Diseases of Digestive System	34
Carried forward	600
Brought forward	600
VI.—Local Diseases—continued.	
6. Diseases of Lymphatic System	...
7. Diseases of Gland-like Organs of Uncertain Use	...
8. Diseases of Urinary System	33
9. Diseases of Reproductive System—	
(*a*). Diseases of Organs of Generation	2
(*b*). Diseases of Parturition	3
10. Diseases of Bones and Joints	2
11. Diseases of Integumentary System	...
VII.—Violence.	
1. Accident or Negligence	21
2. Homicide	2
3. Suicide	2
4. Execution	...
VIII.—Ill-defined and not specified causes	53
Total	718

TABLE OF DEATHS REGISTERED DURING THE YEAR 1894, IN THE CITY OF WORCESTER, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

These Tables are made at the request of the Local Government Board, on forms supplied by them.

Names of Localities.	Mortality from all causes, at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.				Fevers.																	
	At all Ages.	Under 1 year.	1 and under 5	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa & Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.	Injuries.	All Other Diseases.	Total.
City of Worcester ……	615	179	77	12	26	205	116	Under 5			4			1					1	27		17			2	50	1	1	152	256
								5 upwds.			2			2			1						2		50	46	56	5	195	359
Workhouse ……………	54	3	1	…	3	17	30	Under 5																		1			3	4
								5 upwds.																	7	1	6		36	50
General Infirmary ……	56	1	4	5	4	35	7	Under 5																				2	3	5
								5 upwds.						1											3	4	6	10	27	51
Barbourne Hospital……	3	…	2	1	…	…	…	Under 5	1	1																				2
								5 upwds.			1																			1
Totals……	728	183	84	18	33	257	153	Under 5	1	1	4			1					1	27		17			2	51	1	3	158	267
								5 upwds.			3			3			1						2		60	51	68	15	258	461

The subjoined numbers have also to be taken into account in judging of the above records of mortality.

Deaths occurring outside the district among persons belonging thereto…	19				1	10	8	Under 5																						
								5 upwds.	1																1	2	1		14	19
Deaths occurring within the district among persons not belonging thereto …	29		1	2	3	19	4	Under 5																				1		1
								5 upwds.						1												2	3	5	17	28

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

This Table is made at the request of the Local Government Board, on forms supplied by them.

Names of Localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.				Fevers.							Number of such cases removed from their homes in the several localities for treatment in Isolation Hospital.				
	Census 1891.	Estimated to middle of 1894.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Con-tinued.	Relapsing.	Puer-peral.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membraneous Croup.	Enteric or Typhoid.
City of Worcester…………	42,908	43,735	1,295	Under 5	4	30	7			3					2	4	8	3		
				5 upwds.	58	87	27			41	2		6		51	57	37	4		11
General Infirmary…………				Under 5																
				5 upwds.		10				2					6					
Workhouse ………………				Under 5																
				5 upwds.	1											1				
Totals…………				Under 5	4	30	7			3					2	4	8	3		
				5 upwds.	59	97	27			43	2		6		57	58	37	4		11

VITAL STATISTICS.

Population, estimated to the middle of 1894	**43,735**
Deaths	**718**
Death-rate per 1000 of the population	**16·4**
Deaths under one year	**183**
Infantile death-rate per 1000 births registered during the same period	**141·3**
Deaths from seven principal Zymotic diseases	**57**
Zymotic death-rate	**1·3**
Births { Male 680 Female 615 }	**1,295**
Birth-rate per 1000 of the population	**29·6**

TABLE II.

AGE AND SEX DISTRIBUTION OF DEATHS FOR EACH MONTH OF THE YEAR.

		January.	February.	March.	April.	May.	June.	July.	August.	September.	October	November.	December.	TOTAL.	
Under 1 year	Male ...	11	14	15	9	5	4	7	10	9	8	7	9	108	183
	Female...	7	16	14	6	4	6	4	2	7	5	2	2	75	
1 to 5 years	Male ...	7	13	4	1	1	1	...	3	3	2	3	1	39	83
	Female...	9	7	5	5	2	2	2	1	1	4	1	5	44	
5 to 60 years	Male ...	14	12	21	11	11	6	8	8	10	9	14	13	137	260
	Female...	11	16	15	9	5	14	8	9	10	8	9	9	123	
Over 60 years	Male ...	6	8	6	3	7	6	3	3	13	7	13	7	82	174
	Female...	8	5	7	7	10	9	5	5	10	8	8	10	92	
		73	91	87	51	45	47	37	41	63	51	57	56	M. 366 F. 334	700

TABLE III.

DEATHS AND BIRTHS OCCURRING IN PARISHES.

Parish.	Population Census 1891.	Total Deaths.	Death-rate.	Births.	Deaths under 1 year.	Infantile Death rate.
All Saints ...	1809	37	20·4	45	10	222
St. Andrew...	1175	32	27·2	36	7	194
St. Swithin ...	558	6	10·7	9	2	222
Blockhouse...	2202	34	15·4	80	8	100
St. Helen ...	945	16	16·9	28	3	107
St. Michael...	444	11	24·7	8	...	...
St. Alban ...	153	3	19·6	4	2	500
College Precincts...	129	...	...	..	...	...
Whistones ...	1800	50	27·2	34	13	382
St. Nicholas..	2862	29	10·1	68	3	44
St. John	4579	65	14·1	133	22	165
St. Clement...	2107	41	19·4	91	11	120
South Hallow	486	7	14·4	11	1	90
St. Martin ...	4665	93	19·9	156	26	166
St. Peter	7880	107	13·5	258	31	120
South Claines	11,085	165	14·8	334	44	131
Worcester ...	**43,735**	**718**	**16·4**	**1295**	**183**	**141·3**

TABLE IV.

ANALYSIS OF DEATHS OCCURRING IN PARISHES.

Parish.	Male.	Female.	Total.	Age.			
				Under 1 year.	1—5 years.	5—60 years.	Over 60 years.
All Saints.........	21	16	37	10	4	14	9
St. Andrew	13	19	32	7	5	14	6
St. Swithin	3	3	6	2	...	2	2
Blockhouse	23	11	34	8	5	16	5
St. Helen	10	6	16	3	2	5	6
St. Michael	6	5	11	...	1	6	4
St. Alban	3	...	3	2	...	1	...
College Precincts	...	...	...	...	...	...	...
Whistones.........	29	21	50	13	1	14	22
St. Nicholas	12	17	29	3	2	8	16
St. John	34	31	65	22	9	22	12
St. Clement	24	17	41	11	7	14	9
South Hallow ...	5	2	7	1	1	3	2
St. Martin.........	53	40	93	26	12	34	21
St. Peter	51	56	107	31	17	37	22
South Claines ..	76	89	165	44	17	51	53

TABLE V.

BIRTH-RATE AND DEATH-RATE OF 1894, COMPARED WITH THE RATES OF THE PRECEDING EIGHT YEARS.

Year.	Population.	Natural Increase	Registered Births.	Birth-rate.	Total Deaths.	Death-rate.	Deaths under 1 year.	Infantile Death-rate.	Deaths under 5 years.	Deaths from the seven principal Zymotics	Zymotic Death-rate.
1886	41,710	416	1356	30	940	22·4	293	217	357	79	1·8
1887	41,965	452	1378	32	926	22·6	273	196	359	77	1·8
1888	42,220	515	1321	31·3	806	18·9	224	169·5	317	93	2·3
1889	42,462	565	1332	31·5	767	18·1	218	163	264	46	1·3
1890	42,715	378	1256	29·4	878	20·6	225	179	281	59	1·4
1891	42,950	341	1273	29·6	932	21·6	269	208	397	124	2·8
1892	43,195	293	1267	29·3	974	22·5	209	164	277	57	1·3
1893	43,480	408	1244	28·6	836	19·2	207	166	285	92	2·1
	Average of preceding 8 years...	421	1303	30·2	882	20·7	239	182	317	78	1·8
1894	**43,735**	**577**	**1295**	**29·6**	**718**	**16·4**	**183**	**141·3**	**266**	**57**	**1·3**

TABLE VI.

DEATHS FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES IN 1894, COMPARED WITH THE PRECEDING EIGHT YEARS.

Year.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.			Diarrhœa.	TOTAL.
						Typhus.	Typhoid.	Con-tinued.		
1886.........	...	6	9	2	11	...	15	...	37	79
1887.........	...	19	1	3	13	...	8	...	33	77
1888.........	...	30	7	3	11	...	5	...	37	93
1889.........	...	...	2	3	1	...	7	...	33	46
1890	...	2	4	2	5	...	10	...	36	59
1891.........	...	32	...	2	60	1	8	...	21	124
1892.........	...	1	2	11	5	...	14	1	23	57
1893.........	1	19	4	9	6	...	9	...	44	92
Average of the preceding eight years	...	13·6	3·6	4·3	14	...	9·5	...	33	78·3
1894.........	**2**	**27**	**1**	**7**	...	...	**3**	...	**17**	**57**

MONTHLY AVERAGES OF THE METEOROLOGICAL RETURNS FOR THE YEAR 1894.

Observations taken at 9.0 each morning with Kew verified instrument, at Fort Royal, Worcester. Recording Station 135 feet above mean sea-level. Rain gauge 5 inches diameter, 5 feet above ground.

1894.	Bar.	Temperature.		Number days sun.	Number days rain.	Rainfall.
		Max.	Min.			
January	29·69	45·0	32·0	21	19	1·272
February......	29·77	49·0	35·0	19	10	1·888
March	29·84	55·0	36·0	26	7	·706
April	29·75	63·0	41·0	20	11	1·188
May............	29·70	59·0	47·0	17	16	2·702
June............	29·95	66·6	49·5	19	10	1·875
July	29·77	71·0	54·0	24	11	3·395
August	29·87	66·0	51·0	20	13	2·487
September ...	30·09	63·0	45·0	20	9	2.035
October	29·85	56·0	44·0	16	15	2·440
November ...	29·88	52·0	40·0	18	14	3·295
December ...	29·87	45·7	35·8	15	14	1·830
Mean	29·91	57·6	42·4	Tl235	149	25·113

Barometer stood at its highest on December 24th, 30·80 inches; at its lowest on October 24th, 28·85. Hottest day of the year, July 6th, 83°; coldest days of the year, January 5th and 6th, 10° (22 degrees of frost).

A meteor exploded in the vicinity on January 25th.

Heavy gales on February 11th, October 24th, and December 21st and 22nd.

Rainfall is well up to the average for this district.

HORACE SWETE, M.D., D.P.H.

Fort Royal, Jan. 2nd, 1895.

Report of the Sanitary Inspector for the Year 1894.

TO THE URBAN SANITARY AUTHORITY OF THE CITY OF WORCESTER.

Gentlemen,

I have the honor to present my Report of the Sanitary work carried on during the year; owing to the epidemic of Smallpox which occurred in the beginning of the year, a considerable amount of extra work was thrown upon us.

I am pleased to say that my relations with owners of property have been most amicable, although I have had to call upon them to expend considerable amounts in keeping properties in a habitable state. Owing to the great number of old houses in the City, constant supervision is required to keep them in anything like good order and fit for habitation.

The following account of work carried out during the year gives but a small idea of what is actually done, as inspection follows inspection, and in many instances a dozen visits have to be made to one property in order to see that the necessary work is carried out.

Filthy or Dilapidated Dwellings.—Three hundred and ninety-three have been dealt with during the year. House to house visitations are made three times a year in the courts and poor districts of the City. Notices are served on the owners and it is very seldom we have to appeal to the Magistrates, only one case of this kind having been brought before them. I may say here that owners are not always to blame for the state of these houses, as some tenants are so destructive and dirty, that houses get into bad repair sooner than they should do with tenants of a different character.

Overcrowded Dwellings.—Sixty-one cases of this kind have been dealt with and measures taken to abate the same. We are still met with the same difficulty every year, the want of small houses at a reasonable rent with three bedrooms.

Foul or Defective Drains.—Two hundred and sixty-four have been attended to and made good. The same defects occur in the same places time after time, owing in most cases to the ignorance of the tenants as to what a drain can take away, and the articles taken from a choked drain would surprise anyone not accustomed to this work.

Drains inside Dwellings.—These are now almost entirely done away with, and those that remain are only allowed because of the impractability of getting them connected with the sewer owing to their situation.

Privy Cess-pits.—These are gradually being diminished. Thirty-nine (the same number as in 1892) have been made into W.C.s during the year. As I mentioned in a previous Report, the night soil is distributed in places inside the

City, and a source of danger arises from such a proceeding, especially if land so used should in the future be used for building purposes. A Destructor which would consume the refuse of these pits and ash-pits, would remove what is now often a nuisance and a source of danger to the Public Health.

Ash-pits.—These are also decreasing rapidly, as occupiers find it better and more conducive to health to put their refuse in boxes and have it taken away weekly by the Corporation carts.

Dilapidated Privies and W.C.s.—Two hundred and fifty-five of these have been discovered and dealt with. Where defects of this kind exist, communication should at once be made to me, when prompt attention will be given.

Accumulations of Manure, &c.—Very few complaints have been received, and when they are steps have been at once taken for the removal.

Miscellaneous Nuisances.—Eighty-nine nuisances of this character have been dealt with. They comprised: Swine kept within 50 feet of a dwelling, or as a nuisance, animals kept inside dwellings, defective spouting, &c., &c.

Disinfection of Houses.—Two hundred and sixty-five rooms have been disinfected by your officers during the year. This work has been carried out by us personally, as the safety of the public depends so much upon the effectual way in which it is done.

Food and Drugs Act.—Fifty-seven samples have been submitted to the Analyst this year, and the following were found adulterated :—

Butter—fined £2 and costs.
Milk—fined £5 and costs.
Butter—fined £10 and costs.
Chewing Gum—not prosecuted, the offender destroying his stock.

It will be seen that the fines now inflicted are appreciably higher than in previous years.

Dairies, and Cowsheds, Milkshops.—These are frequently inspected as to the cleanliness of the utensils and the proper keeping of the milk, and are generally found in good order.

Courts, Yards, and Alleys.—The work of paving and lighting these still goes on. We report to the Surveyor when we find courts require paving and the Streets Committee lose no time in giving the necessary instructions for the work to be done by the owners.

Slaughter Houses.—These are inspected every week, and are well kept. Lime washing is carried out four times yearly, and notices for this are duly sent at the stated periods.

Common Lodging Houses.—These have not increased. They are inspected every week, and invariably found clean. They are thoroughly lime washed twice a year throughout.

Canal Boats.—These are inspected at the wharves and along the waterways. I have found them as a rule in good order. Very few women and children are now carried on the boats as compared with a few years ago. The Elementary Education Act has done much to prevent this.

Shop Hours Act, 1892.—Abstracts of the Act are left at all shops employing young persons under the stated age, and I have found the tradespeople most willing to carry out its provisions. Owing to the Thursday half-holiday being so generally adopted in the City, many young people who would come under the Act are by this holiday working less hours.

I will in conclusion express my thanks to your Assistant Inspector, Mr. Sheppard, for the valuable assistance he so cordially renders, and to your Medical Officer of Health for his ready advice and help in the many difficulties I encounter.

I am, Gentlemen,
Your obedient Servant,
W. PACY.

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